



EPI-GAZETTE

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Recreational Water Illness (RWI) Prevention

A note from Michele Hlavsa, Chief of CDC's Healthy Swimming Program:

I would like to talk to you today about a common problem -- recreational water illnesses (RWIs). RWIs are caused by pathogens transmitted by ingesting, inhaling aerosols from, or having contact with contaminated water in swimming pools and other recreational water venues.

The number of RWI outbreaks reported annually has increased dramatically in recent years. In 2007, 2.4 million US healthcare visits resulted in a diagnosis of acute otitis externa, commonly referred to as swimmer's ear.^[1] Annually, ambulatory-care clinicians spend nearly 600,000 hours treating acute otitis externa. In other words, acute otitis externa and other RWIs are common and take up a substantial amount of clinicians' time, but RWIs can be easily prevented.

Studies show that the swimming public believes that chlorine instantly kills all pathogens. These data also show that swimmers don't think about swimming as a shared water experience. Unfortunately, these misconceptions lead to risky behaviors, such as swimming during diarrheal illness and swallowing recreational water, which lead to transmission of pathogens that cause RWIs. As clinicians, it's up to us to educate our patients and dispel misconceptions that lead to illness.

Here are 5 simple prevention messages you can share with your patients to help them proactively protect their health every time they swim.

1. Don't swim while ill with diarrhea. A person with diarrhea can easily contaminate the water with fecal matter and introduce enteric pathogens into the water. RWI outbreaks caused by enteric pathogens have increased more than 100%, from 37 in 1999-2000 to 81 in 2007-2008.^[2,3] Because of its tough outer shell, the coccidian *Cryptosporidium* can survive in a well-maintained pool or other chlorinated recreational venue for more than 10 days. Outbreaks of cryptosporidiosis are driving the increase in the number of RWI outbreaks reported annually and can spread into community-wide, and even statewide, outbreaks.

2. For patients with cryptosporidiosis, don't swim for an additional 2 weeks after diarrhea has resolved. CDC and the American Academy of Pediatrics^[4] recommend this step because of the prolonged excretion of *Cryptosporidium* after cessation of diarrhea, the potential for intermittent diarrhea that might cause infected people to think symptoms have resolved, and the increased transmission potential in chlorinated recreational water venues because of the parasite's high chlorine tolerance.

3. Don't swallow the water. Pathogens that cause diarrheal illness can be transmitted when swimmers swallow contaminated water. We don't drink the water in our bath tubs; why would we drink the water we swim in?

4. Keep ears as dry as possible and dry ears thoroughly after swimming. CDC, the American Academy of Otolaryngology, and the American Academy of Pediatrics have recently released updated recommendations to prevent acute

Also in this issue:

- Recreational Water Injury—Spotlight: Drowning
- National HIV Testing Day
- MERS-CoV
- Monthly Reportable Disease Table

otitis externa. Using a bathing cap, ear plugs, or custom-fitted swim molds when swimming can help keep water out of the ears. Pulling the earlobe in different directions while the ear is faced down can help drain water out. If your patient has frequent episodes of acute otitis externa, consider prescribing prophylactic alcohol-based ear drops or a 1:1 mixture of rubbing alcohol and white vinegar. Drops should not be used by persons with tympanostomy tubes or ear tubes, damaged ear drums, outer ear infection, or ear drainage.

5. *Don't swim when you have open wounds.* Open wounds can be sites of entry for pathogens, so people with open wounds should refrain from swimming until the wound is healed. Another option is to wear a waterproof occlusive bandage to cover the wound while swimming. Although swimming with open wounds represents a risk for the person with the wound or sore, CDC is not aware of data indicating that this practice puts the health of other swimmers at risk.

We realize that there is little time for patient education in a busy practice. To increase awareness and expedite communication, CDC has created a number of public-targeted prevention materials (<http://www.cdc.gov/healthywater/swimming/resources/#prevention>). To access these materials and more information on healthy swimming, visit our Website (<http://www.cdc.gov/healthywater/swimming/>). Thanks for tuning in.

References

1. CDC. Estimated burden of acute otitis externa - United States, 2003-2007. MMWR Morb Mortal Wkly Rep. 2011;60:605-609. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6019a2.htm?s_cid=mm6019a2_w Accessed July 6, 2011.
2. Lee SH, Levy DH, Craun GF, Beach MJ, Calderon RL. Surveillance for waterborne-disease outbreaks -- United States, 1999-2000. MMWR Morb Mortal Wkly Rep. 2002;51:1-47. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5108a1.htm> Accessed July 6, 2011.
3. Hlavsa MC, Roberts VA, Anderson AR, et al. Surveillance for waterborne disease outbreaks and other health events associated with recreational water -- United States 2007-2008. MMWR Morb Mortal Wkly Rep. 2011;60. In press.
4. Castor ML. Safe Swimming. AAP News, May 2004. Available at: <http://www.cdc.gov/healthywater/pdf/swimming/pools/safe-swimming-talk-to-parents-rwi.pdf> Accessed July 6, 2011.

CDC offers many RWI resources to medical professionals at
<http://www.cdc.gov/healthywater/swimming/audience-medicalprofessionals.html>
complete with tip sheets, publications, and conference calls.

Orange and Seminole Counties are emphasizing the following prevention messages. Please join us in spreading the word to your patients:

- Don't swim when you have diarrhea.
- Shower with soap before you start swimming.
- Take a rinse shower before you get back into the water.
- Take bathroom breaks every 60 minutes.
- Wash your hands after using the toilet or changing diapers.

Check the chlorine and pH levels before getting into the water.

- Proper chlorine (1–3 mg/L or parts per million [ppm]) and pH (7.2–7.8) levels maximize germ-killing power.
- Most superstores, hardware stores, and pool-supply stores sell pool test strips.

Don't swallow the water you swim in.

- Parents of young children should take a few extra steps:

Take children on bathroom breaks every 60 minutes or check diapers every 30–60 minutes.

- Change diapers in the bathroom or diaper-changing area and not at poolside where germs can rinse into the water.

Remember...Think Healthy. Swim Healthy. Be Healthy!

Recreational Water Injury — Spotlight: Drowning

- Drowning is the leading cause of unintentional injury death among children aged 1–4 years. Drowning is the second leading cause of unintentional injury death among children 5–9 years, and the fifth leading cause of unintentional injury death for people of all ages.
- More than 60% of fatal drownings of 0–4 year-olds occur in swimming pools.
- For every child less than 15 years old who dies from drowning in a pool, another 10 receive emergency department care for nonfatal submersion injuries.
- Nonfatal drowning can cause brain damage that may result in long-term disabilities including memory problems, learning disabilities, and permanent loss of basic functions.
- Florida had the highest swimming pool drowning death rate in the United States from 1999-2007.
- Of those who drowned in a boating accident, 88% were reported to not be wearing a life jacket.

Prevention Strategies:

- Fencing— can prevent more than half of all swimming pool drownings among young children
- Swimming Lessons— can reduce the risk of drowning by as much as 88% in children 1-4 years old
- Life Jackets— use in natural bodies of water and even in a pool for inexperienced swimmers
- Supervision— do not leave children unattended, supervising adults should not engage in distracting activities like reading, playing cards, talking on the phone, or mowing the lawn, at all ages: swim with a buddy
- CPR— when performed immediately rather than waiting for emergency personnel, can help reduce the chance of brain damage and save a life

<http://www.cdc.gov/features/dssafeswimmingpool/index.html#References>

<http://www.cdc.gov/HomeandRecreationalSafety/Water-Safety/index.html>

<http://www.poolsafely.gov/>

National HIV Testing Day 2013 is June 27th

National HIV Testing Day (NHTD) is an annual campaign to encourage people of all ages to
“Take the Test, Take Control.”

Too many people don’t know they have HIV. In the United States, nearly 1.2 million people are living with HIV, and almost one in five don’t know they are infected. Getting tested is the first step.

Free HIV Testing will be available at:

Florida Department of Health in Seminole County
400 W Airport Blvd.
Sanford, FL 32773

Thursday, June 27th from 8am-11am

Walgreens
2501 S French Ave.
Sanford, FL 32773

June 27th, 28th, and 29th from 1pm-5pm

Questions? Call 407-665-3284 or 407-665-3216

For more information visit: http://hivtest.cdc.gov/press_files/

Thank You For Your Participation!

The Epidemiology Program would like to thank the following healthcare providers for their diligence in timely reporting from Florida's "List of Reportable Diseases/Conditions":

Joanne Barnett, RN, Central Florida Regional Hospital
Veronica Butler, RN, Florida Hospital
Sandra Delahoz, RN, South Seminole Hospital

For more information about Florida's List of Reportable Diseases/Conditions, please contact Gregory Danyluk, PhD at 407-665-3266.

Selected Diseases/Conditions Reported to the Seminole County Health Department	2013 through Week 17	2012 through Week 17	2011 through Week 17	2010–2012 Average through Week 17
AIDS*	16	12	13	15.7
Animal Bite to Humans**	7	3	3	4.0
Animal Rabies	3	2	2	2.0
Campylobacteriosis	10	19	12	10.7
Chlamydia	489	478	530	471.7
Cryptosporidiosis	1	2	1	1.7
Cyclosporiasis	0	0	0	0.0
Dengue	0	0	0	0.0
<i>E. coli Shiga toxin-producing</i>	2	6	1	2.3
Giardiasis	5	4	3	6.0
Gonorrhea	94	116	51	94.3
<i>Haemophilus influenzae (invasive)</i>	3	1	2	1.0
Hepatitis A	0	2	1	1.0
Hepatitis B (acute and chronic)	13	19	17	20.3
Hepatitis C (acute and chronic)	106	75	91	81.3
Hepatitis B in Pregnant Women	1	0	3	2.3
HIV*	13	13	22	18.0
Lead poisoning	0	7	1	3.3
Legionellosis	3	0	1	0.3
Lyme Disease	0	2	2	1.3
Meningococcal Disease	1	1	0	0.3
Pertussis	4	1	1	1.0
Salmonellosis	16	13	17	15.3
Shigellosis	1	21	1	8.3
<i>S. pneumoniae – drug resistant</i>	3	4	5	5.7
Syphilis	8	14	11	10.7
Tuberculosis	3	2	4	3.3
Varicella	10	10	10	12.3

* HIV data includes those cases that have converted to AIDS. These HIV cases cannot be added with AIDS cases to get combined totals since the categories are not mutually exclusive. Current AIDS/HIV data are provisional at the county level.

** Animal bite to humans by a potentially rabid animal resulting in a county health department or state health office recommendation for post-exposure prophylaxis (PEP), or a bite by a non-human primate.

Reported cases of diseases/conditions in **Bold** are >10% higher than the current three year average for the same time period.

Novel Coronavirus Assessment & Literature Update

As of 17 May 2013 from the World Health Organization

The novel coronavirus (nCoV) is thought to be of animal origin and to be sporadically transmitted to humans through an as yet unknown route. However, it is clear that the virus can also be transmitted between humans. So far, human-to-human transmission has only been observed in health care facilities and close family contacts and sustained transmission in the community has not been observed. The continued appearance of cases that are not part of larger clusters, and who do not have a history of animal contact, increases concerns about possible community transmission. This possibility is being investigated by authorities in Saudi Arabia.

The infection of two health care workers who had contact with infected patients and other examples of nosocomial transmission re-emphasize the need for meticulous adherence to appropriate infection control measures when nCoV is suspected, beginning with initial patient triage. **Current infection control recommendations can be found at:** http://www.who.int/csr/disease/coronavirus_infections/en/.

The large number of cases with reported co-morbidities suggests that increased susceptibility from underlying medical conditions may play a role in transmission. In addition, it has now been demonstrated that nCoV infection may present atypically, and initially without respiratory symptoms, in immunocompromised individuals.

Limited evidence suggests that the use of nasopharyngeal swabs for diagnosis may not be as sensitive as the use of lower respiratory specimens. Lower respiratory specimens should be used for diagnosis in addition to nasopharyngeal swabs when they are available. If an nasopharyngeal swab tests negative, consider retesting using lower respiratory specimens such as sputum, endotracheal aspirate, or bronchoalveolar lavage. Clinicians should take care to follow strict infection prevention and control guidelines when collecting respiratory specimens of any kind.

The recent increase in cases may in part be related to increased awareness among the medical community, however the demonstrated ability of this virus to transmit between humans and to cause large outbreaks, has increased concerns about the possibility of sustained transmission. Countries in the Middle East in particular should maintain a high level of vigilance and a low threshold for testing of suspect cases. **Current surveillance recommendations can be found at:** http://www.who.int/csr/disease/coronavirus_infections/en/.

WHO expects that more cases will be identified. Control of the disease will require urgent multisectoral investigations aimed at identifying the source of the virus and the exposures that result in infection. It is critical for member states to report these cases and related information urgently to WHO, as required by the International Health Regulations, to inform effective international alertness, preparedness and response.

Recent peer-reviewed papers published since the last update

The Coronavirus Study Group of the International Committee on Taxonomy of Viruses has published a proposed new designation for the novel coronavirus, the Middle East Respiratory Syndrome Coronavirus (MERS-CoV). Reference: De Groot RJ, et al. Middle East Respiratory Syndrome Coronavirus (MERS-CoV): Announcement of the Coronavirus Study Group. *J Virol*. Published ahead of print 15 May 2013. doi:10.1128/JVI.01244-13.

Technical guidance, updates, and case definition can be found at:
http://www.who.int/csr/disease/coronavirus_infections/en/index.html